Idaho

Idaho utilities serve a population of slightly over one million, (national rank of 40) and generated 14.1 billion kilowatthours of electricity in 1996. In 1996, the average price of electricity in Idaho, 3.96 cents per kilowatthour, was the lowest in the Nation. Almost all of the electricity in Idaho is generated at utility hydroelectric plants (86.8 percent in 1996). It is not surprising that Idaho's generating capability is heavily based on hydropower. There are numerous dams on the Snake River which winds through Idaho. Because hydropower is such a large player in the Idaho electric power market, Idaho ranked almost last in total emissions and emissions per square mile of sulfur dioxide, nitrogen oxides, and carbon dioxide. As a result, no Idaho generating capability was cited by Title IV of the Clean Air Act Amendments of 1990 for emissions reductions.

The four largest plants in Idaho are hydroelectric plants and are operated by the four largest utilities with capability within the State. Idaho Power, the largest utility in the State, operates the largest plant in the State, the hydroelectric Brownlee plant, which is on the Oregon border. Idaho's five largest utilities—Idaho Power Company, USCE-North Pacific Division, Washington Water Power Company, Bureau of Reclamation, and PacifiCorp—operated over 80 percent of the net summer capability within the State.

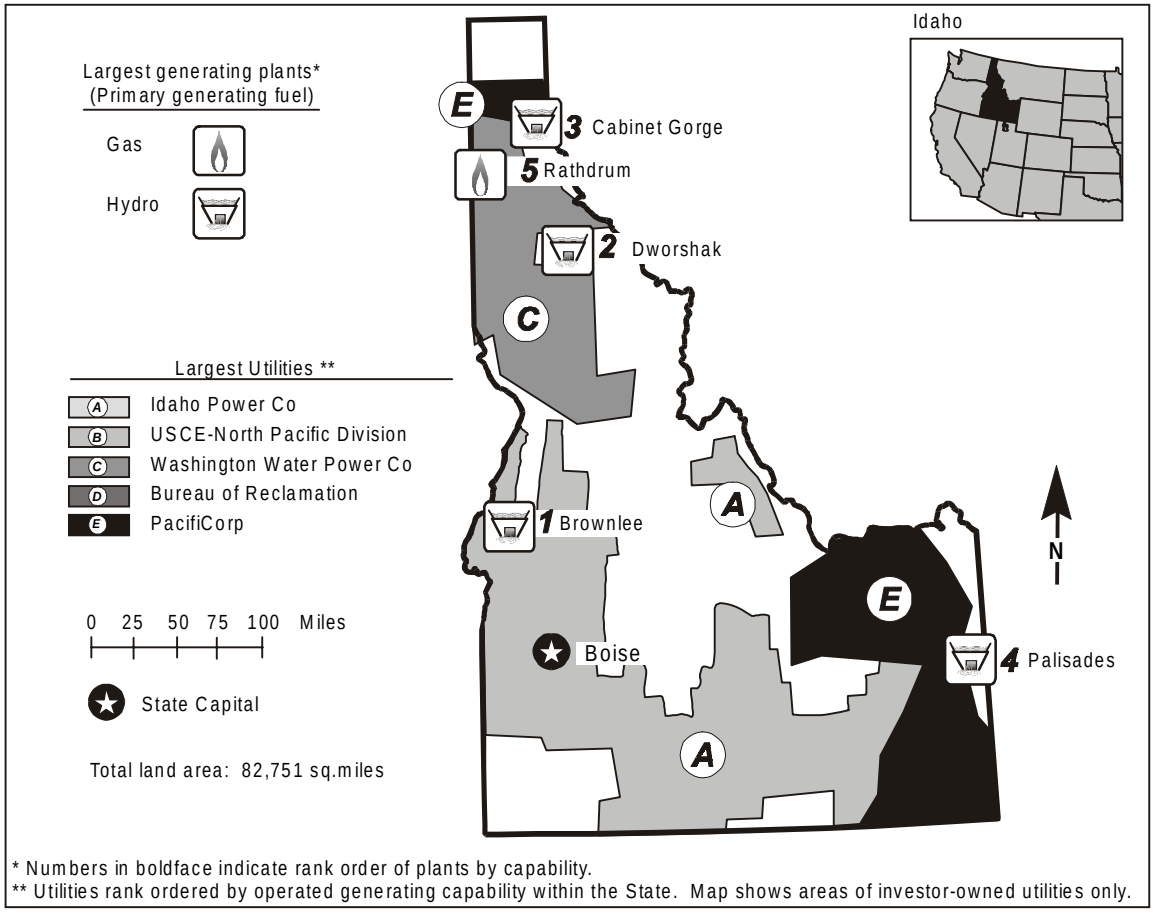
Overall electricity sales increased between 1986 and 1996 at an average annual rate of 3.0 percent. In 1996, utility retail sales were 21.1 billion kilowatthours with the industrial sector accounting for 39.7 percent followed by the residential sector with 30.8 percent and the commercial sector at 27.9 percent. Over 12 percent of retail sales were provided by the 11 public utilities and 17 cooperatives. Idaho is a net importer of electricity with a net difference of 7 billion kilowatthours between generation and sales.

The most salient aspect of Idaho's fuel mix composition over time is that, with the exception of the more than doubling gas share of capability (in absolute terms, still not much), hydroelectric power generation remained quite stable. Nonutility capability and net generation were 6.5 percent and 5.9 percent, respectively, in 1986. By 1996, the nonutility shares had risen to 14.5 percent and 13.2 percent, respectively.

Idaho has been investigating the benefits of electricity deregulation. In 1997, the Idaho House passed a bill directing the Public Utility Commission (PUC) to establish a committee to obtain information on the costs of supplying electricity to consumers. In January 1998, the PUC issued the "Electric Costs Report" to the governor and legislature. The report contains the findings on the unbundled average costs for utilities in Idaho compared to national averages.[1]

[1] Energy Information Administration, Status of State Electric Utility Deregulation Activity, http://www.eia.doe.gov/cneaf/electrictiy/chg_str/tab5rev.html.

IDAHO



* Numbers in boldface indicate rank order of plants by capability.
** Utilities rank ordered by operated generating capability within the State. Map shows areas of investor-owned utilities only.

Table 1. 1996 Summary Statistics

Item	Value	U.S. Rank
NERC Region(s)		WSCC
Net Exporter or Importer		Importer
State Primary Generating Fuel		Hydro
Population (as of 7/96)	1,187,597	40
Average Revenue (cents/kWh)	3.96	[a]1
Industry		
Capability (MWe)	2,987	[b]37
Generation (MWh)	14,087,774	[b]38
Capability/person (KWe/person)	2.52	[b]29
Generation/person (MWh/ person)	11.86	[b]28
Sulfur Dioxide Emissions (Thousand Short Tons)	7	48
Nitrogen Oxide Emissions (Thousand Short Tons)	3	49
Carbon Dioxide Emissions (Thousand Short Tons)	1,402	49
Sulfur Dioxide/sq. mile (Tons)	0.09	48
Nitrogen Oxides/sq. mile (Tons)	0.03	51
Carbon Dioxide/sq. mile (Tons)	16.94	50

Item	Value	U.S. Rank
Utility		
Capability (MWe)	2,553	43
Generation (MWh)	12,230,805	43
Average Age of Coal Plants	--	
Average Age of Oil-fired Plants	29 years	
Average Age of Gas-fired Plants	1 year	
Average Age of Nuclear Plants	--	
Average Age of Hydroelectric Plants	33 years	
Average Age of Other Plants	--	
Nonutility[c]		
Capability (MWe)	434	30
Percentage Share of Capability	14.5	10
Generation (MWh)	1,856,969	32
Percentage Share of Generation	13.2	15

-- = Not applicable.

Table 2. Five Largest Utility Plants, 1996

Plant Name	Type	Operating Utility	Net Capability (MWe)
1. Brownlee	Hydro	Idaho Power Co	728
2. Dworshak	Hydro	USCE-North Pacific Division	460
3. Cabinet Gorge	Hydro	Washington Water Power Co	241
4. Palisades	Hydro	Bureau of Reclamation	177
5. Rathdrum	Gas	Washington Water Power Co	136

Table 3. Top Five Utilities with Largest Generating Capability, and Type, Within the State, 1996
(Megawatts Electric)

Utility	Net Summer Capability	Net Coal Capability	Net Oil Capability	Net Gas Capability	Net Nuclear Capability	Net Hydro/Other Capability
A. Idaho Power Co	1,267	--	6	--	--	1,261
B. USCE-North Pacific Division	500	--	--	--	--	500
C. Washington Water Power Co	395	--	--	136	--	259
D. Bureau of Reclamation	233	--	--	--	--	233
E. PacifiCorp	92	--	--	--	--	92
Total	2,487	--	6	136	--	2,345
Percentage of Industry Capability	83.3	--	--	--	--	--

-- = Not applicable.

Figure 1. Utility Generating Capability by Primary Energy Source, 1996

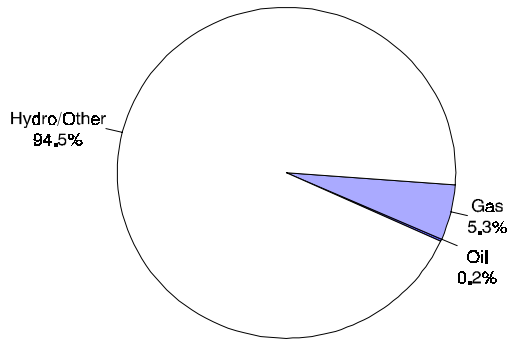


Figure 2. Utility Generation by Primary Energy Source, 1996

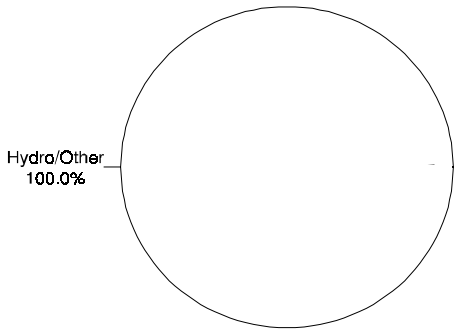


Figure 3. Energy Consumed at Electric Utilities by Primary Energy Source, 1996

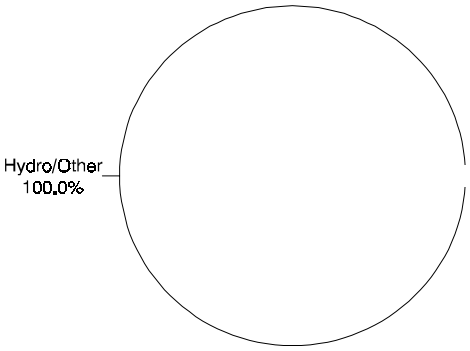


Table 4. Electric Power Industry Generating Capability by Primary Energy Source, 1986, 1991, and 1996
(Megawatts Electric)

Fuel	1986	1991	1996	Percentage Share 1986	Percentage Share 1991	Percentage Share 1996
Coal	--	--	--	--	--	--
Oil	8	56	6	0.3	2.1	0.2
Gas	50	--	136	2.1	--	4.6
Nuclear	--	--	--	--	--	--
Hydro/Other	2,164	2,226	2,412	91.1	84.9	80.7
Total Utility	2,222	2,282	2,553	93.5	87.1	85.5
Total Nonutility	154	339	434	6.5	12.9	14.5
Industry	2,376	2,621	2,987	100.0	100.0	100.0

-- = Not applicable.

Table 5. Electric Power Industry Generation of Electricity by Primary Energy Source, 1986, 1991, and 1996
(Thousand Kilowatthours)

Fuel	1986	1991	1996	Percentage Share 1986	Percentage Share 1991	Percentage Share 1996
Coal	--	--	--	--	--	--
Oil	317	311	245	(s)	(s)	(s)
Gas	381	--	--	(s)	--	--
Nuclear	--	--	--	--	--	--
Hydro/Other	12,152,613	8,281,191	12,230,560	94.1	87.6	86.8
Total Utility	12,153,311	8,281,502	12,230,805	94.1	87.6	86.8
Total Nonutility	760,453	1,171,164	1,856,969	5.9	12.4	13.2
Industry	12,913,764	9,452,666	14,087,774	100.0	100.0	100.0

-- = Not applicable. (s) = Nonzero percentage less than 0.05.

Table 6. Electric Power Industry Consumption by Primary Energy Source, 1986, 1991, and 1996
(Quadrillion Btu)

Fuel	1986	1991	1996	Percentage Share 1986	Percentage Share 1991	Percentage Share 1996
Coal	--	--	--	--	--	--
Oil	(s)	(s)	(s)	--	--	--
Gas	(s)	--	--	--	--	--
Nuclear	--	--	--	--	--	--
Hydro/Other	0.127	0.086	0.126	80.7	78.0	80.1
Total Utility	0.127	0.086	0.126	80.8	78.0	80.1
Total Nonutility	0.030	0.024	0.031	19.2	22.0	19.9
Industry	0.157	0.110	0.157	100.0	100.0	100.0

-- = Not applicable. (s) = Nonzero value less than 0.0005.

Figure 4. Utility Generation of Electricity by Primary Energy Source, 1986-1996

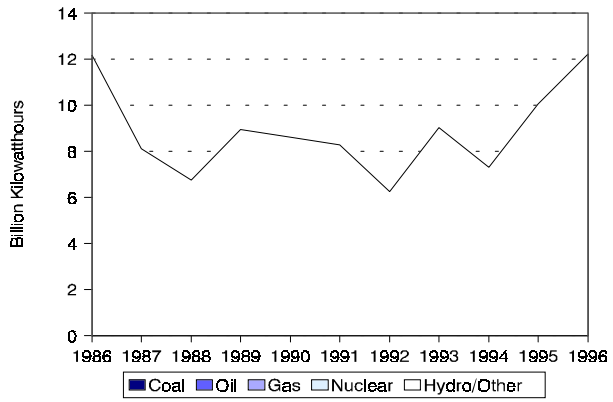


Figure 5. Utility Delivered Fuel Prices for Coal, Oil, and Gas, 1986-1996
(1996 Dollars)

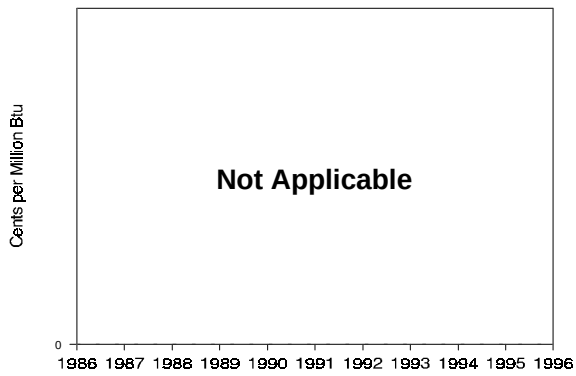


Table 7. Utility Delivered Fuel Prices for Coal, Oil, and Gas, 1986, 1991, and 1996
(Cents per Million Btu, 1996 Dollars)

Fuel	1986	1991	1996	Annual Growth Rate 1986-1996 (Percent)
Coal	--	--	--	--
Oil	--	--	--	--
Gas	--	--	--	--

-- = Not applicable.

Table 8. Electric Power Industry Emissions Estimates, 1986, 1991, and 1996
(Thousand Short Tons)

Emission Type	1986	1991	1996	Annual Growth Rate 1986-1996 (Percent)
Sulfur Dioxide	(s)	1	7	117.6
Nitrogen Oxides[d]	(s)	1	3	104.2
Carbon Dioxide[d]	1	986	1,402	113.2

(s) = Nonzero value less than 0.05.

Figure 6. Estimated Sulfur Dioxide Emissions, 1986-1996

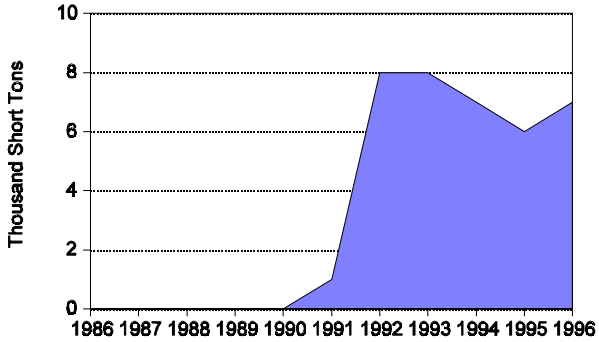


Figure 7. Estimated Nitrogen Oxide Emissions, 1986-1996

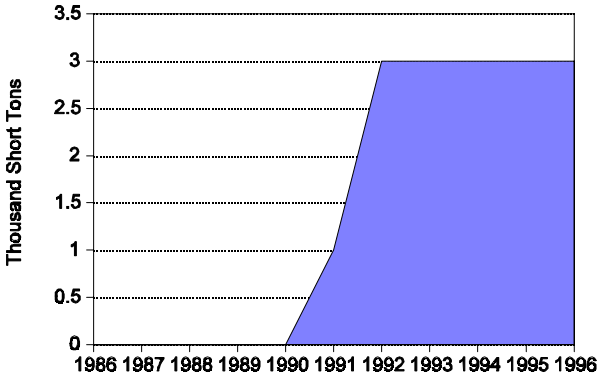


Figure 8. Estimated Carbon Dioxide Emissions, 1986-1996

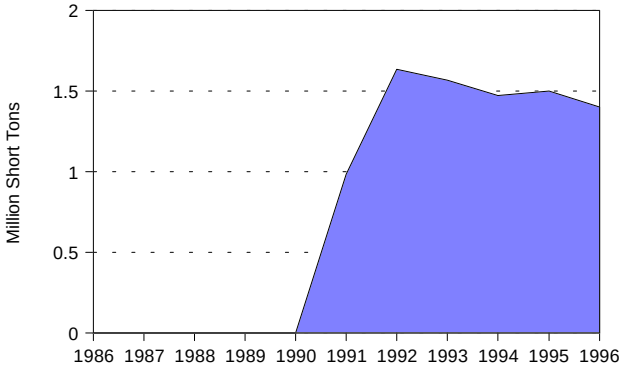


Table 9. Utility Retail Sales by Sector, 1986, 1991, and 1996
(Megawatthours)

Sector	1986	1991	1996	Annual Growth Rate 1986-1996 (Percent)	Percentage Share 1986	Percentage Share 1991	Percentage Share 1996
Residential	5,432,760	5,971,037	6,507,968	1.8	34.4	33.1	30.8
Commercial	4,177,662	4,865,137	5,883,266	3.5	26.5	27.0	27.9
Industrial	5,923,017	6,908,837	8,380,114	3.5	37.5	38.3	39.7
Other	257,624	300,593	347,905	3.0	1.6	1.7	1.6
Total	15,791,068	18,045,604	21,119,253	3.0	100.0	100.0	100.0

Table 10. Utility Retail Sales Statistics, 1986, 1991, and 1996

Item	Investor-Owned Utility	Public	Federal	Cooperative	Total
			1986		
Number of Utilities	7	12	--	17	36
Number of Retail Customers	378,098	32,478	--	44,028	454,604
Retail Sales (MWh)	13,904,191	862,230	--	1,024,647	15,791,068
Percentage of Retail Sales	88.1	5.5	--	6.5	100.0
Revenue from Retail Sales (thousand 1996 $)[e]	657,452	41,683	--	59,923	759,058
Percentage of Revenue	86.6	5.5	--	7.9	100.0
			1991		
Number of Utilities	6	11	--	17	34
Number of Retail Customers	406,948	34,336	--	47,338	488,622
Retail Sales (MWh)	15,896,696	998,180	--	1,150,728	18,045,604
Percentage of Retail Sales	88.1	5.5	--	6.4	100.0
Revenue from Retail Sales (thousand 1996 $)[e]	670,366	45,171	--	64,346	779,883
Percentage of Revenue	86.0	5.8	--	8.3	100.0
			1996		
Number of Utilities	4	11	--	17	32
Number of Retail Customers	473,594	36,829	--	57,757	568,180
Retail Sales (MWh)	18,486,239	1,104,631	--	1,528,383	21,119,253
Percentage of Retail Sales	87.5	5.2	--	7.2	100.0
Revenue from Retail Sales (thousand 1996 $)[e]	705,864	49,302	--	80,237	835,403
Percentage of Revenue	84.5	5.9	--	9.6	100.0

-- = Not applicable.